

WHAT IS CLAIMED IS

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1. An optical module comprising:

a ferrule an optical fiber which penetrates a center thereof along an axis direction of the ferrule;

10 a member inserted with the ferrule;

a sealed container, connected to the member, having an optical system which optically couples to the optical fiber;

15 a resin portion encapsulating the member and the sealed container; and

a communication path including a first communication passage between the ferrule and the member, a space where the optical system and the optical fiber confront each other, and a second communication passage between the ferrule and the member, said first and second communication passages being mutually independent.

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2. The optical module as claimed in claim 1, wherein the first and second communication passages are provided in at least one of the ferrule and the member.

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3. The optical module as claimed in claim 2, wherein the ferrule and the member respectively have a cylindrical shape, so that an outer

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peripheral surface of the ferrule contacts an inner peripheral surface of the member.

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4. The optical module as claimed in claim 3, wherein the ferrule has flat surfaces extending in the axis direction in a portion of the outer peripheral surface thereof, and the first and second communication passages are defined by the flat surfaces and the inner peripheral surface of the member.

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5. The optical module as claimed in claim 3, wherein the ferrule has grooves extending in the axis direction in a portion of the outer peripheral surface thereof, and the first and second communication passages are defined by the grooves and the inner peripheral surface of the member.

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6. The optical module as claimed in claim 3, wherein the member has grooves in a portion of the inner peripheral surface thereof, and the first and second communication passages are defined by the outer peripheral surface of the ferrule and the grooves of the member.

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7. The optical module as claimed in claim 1, wherein the ferrule has one end portion projecting from a first end of the member opposite to a second end connected to the sealed container, and the resin portion encapsulates the member and the sealed container excluding the one end portion of the ferrule projecting from the first end of the member.

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8. The optical module as claimed in claim 7, wherein the first and second communication passages are open at the first end of the member and communicate with each other via the space.

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9. The optical module as claimed in claim 7, further comprising:

a connector section, adapted to connection with an optical connector, provided in a vicinity of the first end of the member.

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10. An optical module producing method for producing an optical module which is provided with a ferrule an optical fiber which penetrates a center thereof along an axis direction of the ferrule, a member inserted with the ferrule, a sealed container connected to the member and having an optical system which optically couples to the optical fiber, a resin portion encapsulating the

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member and the sealed container, and a communication path including a first communication passage between the ferrule and the member, a space where the optical system and the optical fiber confront each other, and a second communication passage between the ferrule and the member, said first and second communication passages being mutually independent, said optical module producing method comprising the step of:

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- 10 (a) placing at least the ferrule and the member within a mold; and
- (b) supplying a gas to the first communication passage and exhausting the gas from the second communication passage when supplying melted resin
- 15 into the mold to form the resin portion.

- 20 11. The optical module producing method as claimed in claim 10, wherein said step (b) supplies pressurized dry air to the first communication passage.

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- 30 12. The optical module producing method as claimed in claim 10, wherein the mold includes a first hole and a second hole, and said step (b) supplies the gas to the first communication passage via the first hole, and exhausts the gas from the second communication passage via the second hole.

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